AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

Claim 1 (Currently amended): An arc welding robot, comprising:

a manipulator including a welding torch mounted in the vicinity of the leading end thereof;

a control unit for operating the manipulator in a given operation pattern in accordance with a previously taught operation program, the control unit including therein

a welding part for welding a member to be welded under a given welding condition in accordance with the operation pattern, and

recording means for recording a total number of short circuits occurring during a given period and waveform data relating to at least one of a welding current instruction value, a welding current output value, a welding voltage instruction value, a welding voltage output value, a welding speed, a wire feed speed, the number of times of short circuits and a wire feed motor current during thea given period; and,

display means for displaying said total number of short circuits along with a sampling cycle for the waveform data while graphically displaying the waveform data recorded in the recording means.

Claim 2 (Original): An arc welding robot as set forth in Claim 1, wherein the recording means is capable of stopping its recording automatically using at least one of an input trigger, an error stop, an arc on and an arc off as its stop trigger.

Claim 3 (Previously presented): An arc welding robot as set forth in Claim 1, further including transfer means for transferring the waveform data recorded in the recording means to an external memory.

Claim 4 (Currently amended): An arc welding robot, comprising:

a manipulator including a welding torch mounted in the vicinity of the leading end thereof;

a control unit for operating the manipulator in a given operation pattern in accordance with a previously taught operation program, the control unit including therein

a welding part for welding a member to be welded under a given welding condition in accordance with the operation pattern, and

recording means for recording waveform data relating to at least one of a welding current instruction value, a welding current output value, a welding voltage instruction value, a welding voltage output value, a welding speed, a wire feed speed, the number of times of short circuits and a wire feed motor current during a given period; and,

display means for graphically displaying the waveform data recorded in the recording meansAn arc welding robot as set forth in Claim 1, wherein the display means includes a display control part for, when displaying the waveform data on a graph, enlarging and reducing the waveform data in the horizontal axis of the graph, for changing the scale of the vertical axis of the graph, and for displaying an operation program name, a teach point name and a sampling cycle.

Claim 5 (Previously presented): An arc welding robot as set forth in Claim 1, wherein the display means includes a display control part for optionally adding or deleting the items of the waveform data to be displayed.

Claim 6 (Previously presented): An arc welding robot as set forth in Claim 1, wherein the display means can be used together with display means provided in a teach pendant to be connected to the control unit in order to create an operation program.

Claim 7 (Original): An arc welding robot as set forth in Claim 3, wherein a portable memory means is used as the external memory and the external memory can be mounted onto and removed from a teach pendant to be connected to the control unit in order to create an operation program.

Claim 8 (Original): An arc welding robot as set forth in Claim 3, wherein, in a teach pendant to be connected to the control unit in order to create an operation program, there is provided communication means capable of communicating with the external memory.

Claim 9 (New): A welding device, comprising:

an arc welding robot, said arc welding robot including:

a manipulator having a leading end and including a welding torch mounted near said leading end;

a control unit for operating the manipulator in a given operation pattern in accordance with a previously taught operation program, the control unit including a welding control part for controlling a welding operation, and a memory for recording data obtained during a given period, the data including a total number of short circuits occurring, a welding current instruction value, a welding current output value, a welding voltage instruction value, a welding voltage output value, a welding speed, a wire feed speed, and a wire feed motor current; and,

a teach pendant for creating the operation program, the teach pendant including a display for displaying said data while displaying a sampling cycle for said data, wherein a numerical value and unit for the sampling cycle can be set from the teach pendant.